

***LineUp With Math™* Alignment**
Minnesota Academic Standards
Mathematics

Strand I. MATHEMATICAL REASONING

Standard: Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.

Benchmarks

1. Assess the reasonableness of a solution by comparing the solution to appropriate graphical or numerical estimates or by recognizing the feasibility of a solution in a given context.

***LineUp With Math™* Activities**

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

2. Appropriately use examples and counterexamples to make and test conjectures, justify solutions and explain results.

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

3. Translate a problem described verbally or by tables, diagrams or graphs, into suitable mathematical language, solve the problem mathematically and interpret the result in the original context.

--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

4. Support mathematical results by explaining why the steps in a solution are valid and why a particular solution method is appropriate.

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Strand II. NUMBER SENSE, COMPUTATION AND OPERATIONS

Sub-Strand B. Computation and Operation

Standard: Compute fluently and make reasonable estimates with rational numbers in realworld and mathematical problems. Understand the meanings of the basic operations, including the use of integer exponents and square roots, and how the operations relate to one another. Appropriately use calculators and other technologies to solve problems.

Benchmarks

3. Calculate the percentage of increase and decrease of a quantity in real-world and mathematical problems.

***LineUp With Math™* Activities**

--Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

Strand III. PATTERNS, FUNCTIONS AND ALGEBRA

Sub-Strand A. Patterns and Functions

Standard: Demonstrate an understanding of rate of change graphically and numerically.

Benchmarks

1. Demonstrate, numerically and graphically, an understanding that rate is a measure of change of one quantity per unit change of another quantity in real-world and mathematical problems.

LineUp With Math™ Activities

--Use an interactive simulator to identify distance, rate, time conflicts in air traffic control problems and resolve the conflicts by varying plane speeds or changing plane routes.

Strand V. SPATIAL SENSE, GEOMETRY AND MEASUREMENT

Sub-Strand B. Geometry

Standard: Use basic geometric principles and proportional reasoning to solve real-world and mathematical problems.

Benchmarks

3. Use ratios and proportions to interpret map scales and scale drawings.

LineUp With Math™ Activities

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.